10. Infrastructure

The infrastructure information contained in this section is based upon data collected by the FCC as part of its price-cap monitoring procedures.[1] This summary is intended to highlight changes in the use of technology in the local telephone company plant. The data (ARMIS 43-07 reports[2]) upon which this infrastructure summary is based are due April 1 for the previous calendar year. This infrastructure section includes data through calendar year 2007.[3] The most recent data were due April 1, 2008. Revisions are only included in this section if they are filed early enough for inclusion; however, this section contains revisions to historical data filed subsequent to cutoff dates for last year's summary.

Background

The data items presented here summarize ARMIS Report 43-07, which is filed by local exchange carriers subject to mandatory price-cap regulation. The information contained in this section is for the years 1997 through 2007. Changes to our infrastructure data collection process are reflected beginning with filed data for calendar year 2003. A number of items were eliminated from reporting requirements and historical information for these items is no longer shown in this section.[4] Most of the eliminated items relate to switching technologies that have

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1 *Policy and Rules Concerning Rates For Dominant Carriers*, CC Docket No. 87-313, Second Report and Order, 5 FCC Rcd 6786 (1990) (*LEC Price Cap Order*), Erratum, 5 FCC Rcd 7664 (Com. Car. Bur. 1990); *Policy and Rules Concerning Rates For Dominant Carriers*, CC Docket No. 87-313, Memorandum Opinion and Order, 8 FCC Rcd 7474 (Com. Car. Bur. 1993) (*Service Quality Modifications Order*).

2 ARMIS, an acronym for Automated Reporting Management Information System, is a publicly available repository of financial, plant, demand, and quality-of-service data. Additional infrastructure data are contained in the ARMIS 43-08 report. *See Statistics of Communications Common Carriers*, published annually by the Wireline Competition Bureau's Industry Analysis and Technology Division, for a compilation of ARMIS 43-08 infrastructure data.

3 *See Infrastructure of the Local Operating Companies Aggregated to the Holding Company Level*, released April 24, 1995 for data for the years 1989 and 1990. Some of the data for those early years are not a part of this summary and may contain discrepancies that make the early data inconsistent with that of later years. Reports containing data for the early years can be found in the infrastructure section of the Wireline Competition Bureau Statistical Reports Internet site *at* www.fcc.gov/wcb/stats under the file names INFRA99.ZIP, INFRA98.ZIP, INFRA95.ZIP, and INFRA93.ZIP. More recent reports can be found in Section 10 of earlier versions of this report on the same web page under the section covering the Commission's Federal-State Joint Board Monitoring Reports.

4 Historical information for the entries that are no longer reported can be found in

become obsolete or reflect virtually complete deployment of capabilities such as touch-tone capability. New data are being collected on hybrid copper/fiber interfaces in the network but most of the carriers have requested proprietary treatment for the data. As a result, the data are not provided in this section.

The ARMIS 43-07 reports are filed only by those local exchange companies originally subject to mandatory price-cap regulation--the Bell operating companies (BOCs).[5] Together, these large companies are estimated to serve about 90% of all incumbents' access lines nationwide. The data are generally filed at the study area level, which typically consists of a company's operations within a state. The state-by-state data are available from the Commission's ARMIS web page *at* http://www.fcc.gov/wcb/eafs/.[6] The information summarized in this section is organized into two sets of tables with the following designations: Table 10.1 shows switching system data. Table 10.2 shows transmission system data. Each set of tables contains segments for each of the regional Bell operating companies (along with Verizon's GTE companies shown separately) with aggregated summary data for all the reporting companies. The data summarized for each holding company reflect the aggregate of data filed for individual states or study areas and should be useful in assessing overall trends. In some cases, refiled data may cause values to differ from prior summary reports. Recent data reflect mergers of GTE and Bell Atlantic, which are now under the name Verizon Communications, the acquisitions by SBC of Ameritech, Pacific Telesis, and Southern New England Telephone, and the subsequent mergers of SBC and BellSouth with AT&T.

Description of the Technologies and Analysis of the Data

The data in the attached tables provide an historical series for a variety of plant elements that illustrate the deployment of technology in the networks of the major local exchange carriers.[7] The data items provide a picture of the well established technologies in use. This section highlights key trends in the evolution of basic telecommunications infrastructure and illustrates the replacement of older technologies with newer ones. In some cases, older

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Monitoring Reports released prior to 2003 and in the reports noted in footnote 3.

5 *See* footnote 1.

6 To access ARMIS data from www.fcc.gov/wcb/eafs click on the words "download ARMIS data" and select the desired report, table and row(s). To access data instructions and definitions applicable to the 43-07 report click on the words "ARMIS site map" at the top of the second screen and then select the 43-07 report and table desired.

7 A number of irregularities including time series anomalies have been noted in the data. The companies are typically notified of these observed problems and either file revisions or explanations. Revisions are initially made available on the ARMIS database website noted above.

technologies either no longer exist or are in very limited use. This section reflects recent revisions to the ARMIS 43-07 report from which the data in this summary are obtained.[8]

ARMIS data currently collected only cover circuit switches, including remote switches, that provide a dedicated path through the network for the duration of a call, not routers or switches that are used to handle Internet traffic or in connection with frame relay and ATM services that are specifically designed to handle data packets.[9] Almost all of the major local exchange carrier switches are digital. Almost half of these are ISDN capable. The number of ISDN switches increased in 2007, but the rate at which new ISDN switching capability is being added to the network is considerably lower than it was ten years ago. Also in 2007, the reported number of equipped ISDN Primary Rate Interfaces decreased by less than one percent, from 592,064 to 590,428. ISDN basic rate services also decreased somewhat.

A number of transmission elements are included in Table 10.2. Definitions for these elements can be found on the Commission's ARMIS website noted above. These illustrate the rapid development of fiber capacity in terms of terminations, sheath kilometers, and links.[10] The number of sheath kilometers of fiber nearly doubled over the decade 1997-2007, with about 88 thousand additional fiber sheath kilometers being reported in 2007.[11] During the same period,

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8 *2000 Biennial Regulatory Review – Comprehensive Review of the Accounting Requirements and ARMIS Reporting Requirements for Incumbent Local Exchange Carriers: Phase 2; Amendments to the Uniform System of Accounts for Interconnection; Jurisdictional Separations Reform and Referral to the Federal-State Joint Board; and Local Competition and Broadband Reporting*, CC Docket Nos. 00-199, 99-301, 97-212, 80-286, Report and Order in CC Docket Nos. 00-199, 97-212, and 80-286, Further Notice of Proposed Rulemaking in CC Docket Nos. 00-199, 99-301, and 80-286, 16 FCC Rcd 19911 (2001), *recon pending* (*Phase 2 Report and Order*).

9 Remote switches as defined in this report only cover those switches capable of functioning if the host switch fails.

10 A large portion of the cost of fiber deployment is associated with labor and installation rather than with the cable itself. *See* http://www.ihets.org/about/pubs/tech_briefs/fiber_optics.pdf. Thus, the incremental cost of installing a larger fiber cable is typically relatively small. The economics of fiber deployment have resulted in deployments of typical fiber cables containing more than 40 fibers; however, voice circuit requirements could typically be placed on a much smaller number of fibers.

11 The sheath-kilometer parameter shown in the attached tables may be a better measure of fiber coverage than fiber kilometers. In general, care should be exercised in interpreting aggregate fiber data when determining, for example, whether fiber is concentrated in certain parts of a company's service area with relatively little fiber elsewhere. See Fiber Deployment Update-End of Year 1998 (released Sept. 9, 1999) at www.fcc.gov/wcb/iatd/stats.html (FIBER98.ZIP authored by J.Kraushaar, Industry

the number of sheath kilometers of copper remained steady at somewhat over 5 million, and other sheath data, in relative terms, were not significant. Table 10.2 also highlights the relative magnitude of equipped and working channels. Both copper and fiber working channels have declined since 2004. Total interoffice circuit links have steadily declined since 2002.[12]

Although the historical level of growth in fiber has been high, its use in the local loop at present appears to be relatively small. The reporting companies included in this section had an installed base of about 247.7 million copper-pair mainframe terminations in their central offices for local loop use in 2007. In comparison, about 3.9 million fiber strands (associated with loop plant) were terminated in central offices by end-of-year 2007. The data show, however, that the number of these terminations increased by more than 11% during 2007. In 2007 DS-3 terminations on fiber facilities grew by almost 25%. Fiber and hybrid copper/fiber systems are becoming increasingly important in the local loop as the number of high-quality copper pairs available to support higher data rate digital services declines.

As noted earlier, the data presented in this section do not include data associated with hybrid fiber/copper interfaces including information on offerings of those xDSL services offered over hybrid interfaces for which the companies requested proprietary treatment.[13] Nonetheless the number of ISDN capable lines can be used as an upper bound for potential broadband availability over copper loops, since copper loop characteristics necessary to support ISDN services are also required for xDSL services.[14] Readers interested in more disaggregated information may wish to examine data at a more localized level than presented here.[15]

Analysis and Technology Division, Wireline Competition Bureau, Federal Communications Commission).

12 The instructions used by carriers to submit data for this section were designed to address facilities used to provide basic telephone service only.

13 xDSL (Digital Subscriber Line) services offer broadband digital capability using special terminal equipment to allow high-speed data transmission over copper loops, enhancing the capability of existing copper access lines.

14 Table 10.1 includes the number of switch terminations that are available for ISDN and ISDN capable lines. Table 10.2 includes the number of copper loops that are capable of supporting ISDN.

15 Individual study-area data are also available to address more localized issues. This information is available from the ARMIS web page *at* www.fcc.gov/wcb/eafs/.

Table 10.1
Switching Data
Total - All Companies

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
	13,483	16,117	16,261	14,702	14,837	14,051	14,053	14,064	11,997	11,995	12,038
Tandems	414	493	492	498	517	526	544	568	529	528	525
Hosts	2,150	2,471	2,461	2,322	2,338	2,274	2,169	2,156	2,516	2,516	2,524
Remotes (Stand Alone Only)	5,717	7,977	8,103	7,335	7,412	7,383	7,382	7,312	6,520	6,543	6,599
Total Switches	13,711	16,392	16,516	14,953	15,109	14,353	14,376	14,399	12,321	12,315	12,347
Analog Stored Program Control	472	431	314	200	139	107	84	73	65	64	64
Digital Stored Program Control	13,071	15,961	16,202	14,753	14,970	14,245	14,292	14,326	12,256	12,251	12,283
Total Number Access Lines in Service (000)	110,329	155,530	159,364	158,107	155,543	148,292	142,698	136,057	127,026	118,316	109,448
Analog Stored Program Control Lines Served	18,441	16,688	11,713	7,192	4,810	3,283	2,436	1,981	1,566	1,499	1,390
Digital Stored Program Control Lines Served	91,731	138,842	147,651	150,915	150,732	145,009	140,262	134,076	125,460	116,817	108,058
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	11,172	15,148	15,994	14,681	14,954	14,258	14,342	14,366	12,292	12,286	12,323
Total Switches Equipped with ISDN	3,461	5,392	5,735	5,340	5,465	5,664	5,651	5,787	5,730	5,914	5,930
Lines with Access to ISDN (000)	75,450	121,408	127,357	131,041	129,075	124,451	119,422	115,561	107,535	100,085	92,284
Basic Rate ISDN (BRI) Interfaces Equipped	1,136,712	2,491,509	2,720,871	2,775,102	3,097,905	2,860,453	2,590,905	2,637,353	2,606,519	2,568,395	2,550,299
Primary Rate ISDN (PRI) Interfaces Equipped	92,311	234,515	334,910	429,295	720,590	753,491	575,806	586,999	585,278	592,064	590,428

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
AT&T Ameritech Companies

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
	1,435	1,419	1,432	1,447	1,451	1,455	1,439	1,436	1,439	1,438	1,433
Tandems	47	51	52	53	55	63	65	87	86	86	85
Hosts	243	236	234	234	235	236	236	236	235	232	232
Remotes (Stand Alone Only)	769	764	775	790	789	790	776	779	781	772	769
Total Switches	1,482	1,470	1,485	1,500	1,506	1,518	1,504	1,523	1,525	1,524	1,518
Analog Stored Program Control	58	46	39	37	34	24	16	8	8	8	8
Digital Stored Program Control	1,424	1,424	1,446	1,463	1,472	1,494	1,488	1,515	1,517	1,516	1,510
Total Number Access Lines in Service (000)	20,335	20,790	21,036	20,898	20,074	19,151	18,309	17,287	16,050	14,820	13,458
Analog Stored Program Control Lines Served	2,793	2,193	1,811	1,730	1,491	927	562	276	244	221	196
Digital Stored Program Control Lines Served	17,541	18,597	19,225	19,168	18,583	18,224	17,747	17,011	15,806	14,599	13,262
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	1,463	1,451	1,476	1,492	1,496	1,504	1,504	1,523	1,525	1,524	1,518
Total Switches Equipped with ISDN	695	784	816	822	844	933	863	883	908	906	904
Lines with Access to ISDN (000)	15,464	16,804	17,472	17,388	16,814	16,810	16,160	15,531	14,404	13,248	12,069
Basic Rate ISDN (BRI) Interfaces Equipped	180,280	220,867	259,312	271,468	283,600	290,367	282,643	282,159	280,365	280,495	280,520
Primary Rate ISDN (PRI) Interfaces Equipped	14,569	24,800	38,037	53,926	70,542	75,184	75,766	79,519	80,609	81,487	81,775

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
AT&T BellSouth Companies

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
	1,654	1,653	1,649	1,644	1,642	1,637	1,629	1,625	1,612	1,608	1,608
Tandems	70	71	71	73	77	77	78	79	78	76	76
Hosts	317	307	306	297	304	305	295	295	292	297	297
Remotes (Stand Alone Only)	766	765	765	776	819	829	877	811	810	839	839
Total Switches	1,674	1,673	1,668	1,665	1,665	1,664	1,658	1,653	1,637	1,634	1,634
Analog Stored Program Control	106	100	83	69	54	44	41	39	31	30	30
Digital Stored Program Control	1,568	1,573	1,585	1,596	1,611	1,620	1,617	1,614	1,606	1,604	1,604
Total Number Access Lines in Service (000)	23,080	23,909	24,458	24,558	23,756	22,955	22,206	21,317	19,944	18,740	17,599
Analog Stored Program Control Lines Served	3,746	3,536	2,972	2,362	1,729	1,309	1,154	1,030	699	699	652
Digital Stored Program Control Lines Served	19,334	20,373	21,486	22,197	22,027	21,646	21,052	20,287	19,244	18,041	16,946
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	1,674	1,673	1,668	1,665	1,665	1,664	1,658	1,653	1,637	1,634	1,634
Total Switches Equipped with ISDN	584	596	645	691	678	697	701	809	811	781	780
Lines with Access to ISDN (000)	14,894	15,980	17,413	18,396	17,660	17,457	16,927	17,536	16,607	15,472	14,467
Basic Rate ISDN (BRI) Interfaces Equipped	167,512	183,458	202,391	223,294	228,898	230,066	269,254	281,088	246,880	273,280	239,640
Primary Rate ISDN (PRI) Interfaces Equipped	21,389	33,564	51,669	72,347	85,983	81,328	81,682	86,399	86,185	86,315	86,232

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
AT&T Pacific Telesis Companies

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
	810	801	799	778	781	779	779	778	779	778	778
Tandems	21	24	24	24	31	31	31	35	35	35	35
Hosts	135	121	116	189	114	114	116	116	115	115	117
Remotes (Stand Alone Only)	364	361	350	361	360	358	359	357	357	357	357
Total Switches	830	824	822	802	812	810	807	813	814	813	813
Analog Stored Program Control	49	38	17	0	0	0	0	0	0	0	0
Digital Stored Program Control	781	786	805	802	812	810	807	813	814	813	813
Total Number Access Lines in Service (000)	17,155	18,158	18,285	18,236	17,788	17,248	16,693	16,156	15,589	14,767	13,790
Analog Stored Program Control Lines Served	2,422	1,825	754	0	0	0	0	0	0	0	0
Digital Stored Program Control Lines Served	14,733	16,333	17,531	18,236	17,788	17,248	16,693	16,156	15,589	14,767	13,790
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	791	803	796	778	812	810	807	813	814	813	813
Total Switches Equipped with ISDN	531	551	574	574	562	560	588	592	592	592	592
Lines with Access to ISDN (000)	13,632	15,134	16,529	17,589	16,966	16,427	16,251	15,759	15,201	14,388	13,427
Basic Rate ISDN (BRI) Interfaces Equipped	314,003	468,493	489,369	421,744	630,816	615,934	347,052	339,563	339,695	339,745	339,501
Primary Rate ISDN (PRI) Interfaces Equipped	20,125	31,345	47,794	49,712	94,742	54,902	53,958	54,670	55,418	57,074	58,266

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
AT&T Southern New England

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
					137	136	161	161	160	167	181
Tandems					1	6	7	7	7	7	7
Hosts					81	32	30	30	30	28	29
Remotes (Stand Alone Only)					56	73	82	82	81	88	101
Total Switches					137	136	165	168	167	174	188
Analog Stored Program Control					0	0	0	0	0	0	0
Digital Stored Program Control					137	136	165	168	167	174	188
Total Number Access Lines in Service (000)					2,334	2,258	2,173	2,069	1,941	1,787	1,662
Analog Stored Program Control Lines Served					0	0	0	0	0	0	0
Digital Stored Program Control Lines Served					2,334	2,258	2,173	2,069	1,941	1,787	1,662
Total Switches Equipped w/SS7-394 (InterLATA) Svc.					137	136	165	168	167	174	188
Total Switches Equipped with ISDN					101	137	103	107	106	105	107
Lines with Access to ISDN (000)					2,031	2,030	1,870	1,776	1,660	1,524	1,411
Basic Rate ISDN (BRI) Interfaces Equipped					38,423	43,254	51,076	51,138	50,348	50,122	50,453
Primary Rate ISDN (PRI) Interfaces Equipped					169,488	192,720	8,465	8,413	8,390	8,490	8,500

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
AT&T Southwestern Bell Companies

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
	1,690	1,644	1,658	1,663	1,660	1,652	1,658	1,654	1,639	1,635	1,622
Tandems	60	67	56	69	70	70	71	68	67	67	67
Hosts	267	230	228	229	230	244	245	246	246	245	248
Remotes (Stand Alone Only)	1,077	1,158	1,163	1,152	1,150	1,150	1,101	1,093	1,079	1,074	1,065
Total Switches	1,750	1,711	1,727	1,715	1,716	1,722	1,728	1,722	1,706	1,702	1,689
Analog Stored Program Control	136	115	88	67	46	34	23	23	23	23	23
Digital Stored Program Control	1,614	1,596	1,639	1,648	1,670	1,688	1,705	1,699	1,683	1,679	1,666
Total Number Access Lines in Service (000)	15,306	15,872	16,287	16,411	15,842	15,294	14,670	13,912	13,034	12,199	11,395
Analog Stored Program Control Lines Served	5,055	4,119	3,107	2,246	1,448	963	652	615	569	531	497
Digital Stored Program Control Lines Served	10,251	11,753	13,180	14,165	14,394	14,331	14,018	13,297	12,465	11,668	10,899
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	1,724	1,707	1,724	1,713	1,713	1,722	1,728	1,722	1,706	1,702	1,689
Total Switches Equipped with ISDN	331	360	428	441	461	472	479	498	497	497	510
Lines with Access to ISDN (000)	10,577	13,361	12,158	12,169	12,056	11,241	10,721	10,069	9,361	8,726	8,333
Basic Rate ISDN (BRI) Interfaces Equipped	185,018	225,427	267,190	281,459	310,326	308,501	309,907	309,172	304,893	306,233	300,424
Primary Rate ISDN (PRI) Interfaces Equipped	15,434	31,570	46,533	59,513	68,236	68,793	71,035	70,860	68,395	72,129	70,423

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
Qwest Companies

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
	1,441	1,446	1,428	1,400	1,354	1,337	1,322	1,323	1,319	1,311	1,310
Tandems	51	51	51	53	51	56	56	56	56	56	56
Hosts	249	253	251	245	231	226	217	219	218	216	216
Remotes (Stand Alone Only)	781	786	752	733	680	651	631	630	630	626	625
Total Switches	1,492	1,458	1,441	1,414	1,363	1,351	1,336	1,337	1,334	1,326	1,325
Analog Stored Program Control	113	95	71	20	1	1	0	0	0	0	0
Digital Stored Program Control	1,379	1,363	1,370	1,394	1,362	1,350	1,336	1,337	1,334	1,326	1,325
Total Number Access Lines in Service (000)	16,132	16,859	17,449	17,626	16,664	15,682	14,277	13,425	12,817	12,082	11,258
Analog Stored Program Control Lines Served	4,228	3,574	2,501	636	30	28	0	0	0	0	0
Digital Stored Program Control Lines Served	11,905	13,286	14,948	16,991	16,634	15,654	14,277	13,425	12,817	12,082	11,258
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	1,305	1,346	1,350	1,340	1,311	1,311	1,312	1,315	1,311	1,303	1,302
Total Switches Equipped with ISDN	541	557	583	623	603	587	635	638	636	852	854
Lines with Access to ISDN (000)	10,264	11,189	12,522	14,611	14,082	13,153	12,575	11,806	11,245	11,055	10,296
Basic Rate ISDN (BRI) Interfaces Equipped	162,953	165,733	167,623	176,696	174,079	199,302	201,232	195,674	195,729	193,070	192,754
Primary Rate ISDN (PRI) Interfaces Equipped	4,329	4,867	6,112	7,822	11,046	61,993	65,672	67,908	67,912	68,303	68,215

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
Verizon - Bell Atlantic Companies

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
	2,616	2,636	2,634	2,622	2,623	2,628	2,639	2,636	2,649	2,698
Tandems	67	74	76	81	87	102	101	100	100	98
Hosts	369	381	386	382	464	375	371	372	374	378
Remotes (Stand Alone Only)	1,405	1,437	1,435	1,424	1,424	1,441	1,445	1,438	1,447	1,501
Total Switches	2,652	2,682	2,683	2,675	2,682	2,705	2,702	2,712	2,719	2,758
Analog Stored Program Control	37	16	7	4	4	4	3	3	3	3
Digital Stored Program Control	2,615	2,666	2,676	2,671	2,677	2,701	2,699	2,709	2,716	2,755
Total Number Access Lines in Service (000)	40,838	41,833	41,669	40,582	38,810	38,003	36,105	33,520	30,734	28,078
Analog Stored Program Control Lines Served	1,442	568	218	112	55	67	60	54	48	45
Digital Stored Program Control Lines Served	39,396	41,266	41,451	40,469	38,754	37,936	36,045	33,466	30,686	28,034
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	2,641	2,671	2,672	2,664	2,682	2,704	2,700	2,706	2,713	2,757
Total Switches Equipped with ISDN	1,298	1,304	1,305	1,303	1,328	1,308	1,289	1,301	1,295	1,295
Lines with Access to ISDN (000)	34,367	36,336	36,825	35,636	34,012	32,010	30,667	27,567	25,001	22,457
Basic Rate ISDN (BRI) Interfaces Equipped	1,088,060	1,167,022	1,226,934	1,258,543	1,003,709	966,634	1,015,554	996,472	933,795	950,386
Primary Rate ISDN (PRI) Interfaces Equipped	71,983	97,177	123,323	150,029	149,282	151,276	149,131	150,081	149,513	149,500

Source: ARMIS Report 43-07.

Table 10.1
Switching Data
Verizon - GTE Companies

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
	6,453	6,538	6,659	5,136	5,190	4,432	4,437	4,448	2,413	2,409	2,408
Tandems	165	162	164	150	151	136	134	135	100	101	101
Hosts	939	955	945	742	761	653	655	643	1,008	1,009	1,007
Remotes (Stand Alone Only)	1,960	2,738	2,861	2,088	2,134	2,108	2,115	2,115	1,344	1,340	1,342
Total Switches	6,483	6,604	6,691	5,174	5,235	4,470	4,473	4,481	2,426	2,423	2,422
Analog Stored Program Control	10	0	0	0	0	0	0	0	0	0	0
Digital Stored Program Control	6,305	6,604	6,691	5,174	5,235	4,470	4,473	4,481	2,426	2,423	2,422
Total Number Access Lines in Service (000)	18,321	19,105	20,015	18,709	18,503	16,894	16,366	15,785	14,131	13,187	12,207
Analog Stored Program Control Lines Served	197	0	0	0	0	0	0	0	0	0	0
Digital Stored Program Control Lines Served	17,966	19,105	20,015	18,709	18,503	16,894	16,366	15,785	14,131	13,187	12,207
Total Switches Equipped w/SS7-394 (InterLATA) Svc.	4,215	5,527	6,309	5,021	5,156	4,429	4,464	4,472	2,426	2,423	2,422
Total Switches Equipped with ISDN	779	1,246	1,385	884	913	950	974	971	879	886	888
Lines with Access to ISDN (000)	10,619	14,574	14,926	14,064	13,830	13,320	12,908	12,418	11,490	10,671	9,824
Basic Rate ISDN (BRI) Interfaces Equipped	126,946	139,471	167,964	173,507	173,220	169,320	163,107	163,005	192,137	191,655	196,621
Primary Rate ISDN (PRI) Interfaces Equipped	16,465	36,386	47,588	62,652	70,524	69,289	67,952	70,099	68,288	68,753	67,517

Source: ARMIS Report 43-07.

Table 10.2
Transmission System Data
Total - All Companies

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Sheath Kilometers:											
Total Sheath Kilometers	5,664,315	5,763,419	5,846,319	5,683,568	5,848,516	5,791,105	5,851,790	5,940,199	5,987,524	6,079,810	6,201,565
Copper	5,163,039	5,212,873	5,255,778	5,063,534	5,166,537	5,086,669	5,118,314	5,166,481	5,166,382	5,184,980	5,218,430
Fiber	495,380	536,520	576,868	604,175	665,805	692,031	720,877	763,132	810,556	884,319	972,713
Other	5,896	14,026	13,672	15,860	16,174	12,406	12,600	10,587	10,585	10,511	10,422
Interoffice Working Facilities:											
Total Circuit Links	28,847,081	32,231,481	41,879,877	47,960,986	52,923,180	52,949,635	52,112,866	50,950,480	49,057,883	47,498,952	45,041,502
Loop Plant -- Central Office Terminations:											
Total Equipped Channels	264,429,362	291,636,650	316,611,286	330,593,158	358,698,149	312,233,882	297,583,679	300,722,796	279,689,571	281,237,051	283,548,392
Copper	230,903,175	239,252,059	242,631,789	245,096,715	252,260,939	244,927,670	238,212,199	235,623,927	234,032,989	234,866,729	236,712,665
Fiber Digital Carrier	33,515,370	52,379,288	73,974,959	85,492,486	106,433,399	67,303,642	59,370,412	65,098,642	45,656,354	46,370,079	46,835,485
Other	10,817	5,303	4,538	3,957	3,811	2,570	1,068	227	228	243	242
Total Working Channels	170,083,120	194,840,965	207,743,891	216,436,367	227,878,106	169,157,091	155,978,400	148,278,295	137,253,986	125,767,269	116,333,285
Copper	147,286,389	154,355,633	154,646,229	155,710,348	152,364,455	137,228,369	127,261,709	117,672,917	110,016,721	100,254,451	92,431,635
Fiber Digital Carrier	22,793,636	40,483,024	52,850,716	60,724,120	75,512,132	31,927,283	28,716,169	30,605,295	27,237,179	25,512,742	23,901,576
Other	3,095	2,308	246,946	1,899	1,519	1,439	522	83	86	76	74
Other Transmission Facility Data:											
Copper Pairs Term Main Frame (Loop Plant Only)	215,534,261	218,990,613	218,470,177	217,441,743	238,862,029	242,252,929	242,520,915	242,554,731	244,216,752	245,371,644	247,662,209
Fiber Strands Term in the CO (Loop Plant Only)	1,651,999	1,946,608	2,005,074	2,309,508	2,744,584	3,098,809	2,705,921	2,831,699	3,207,029	3,500,161	3,885,338
Fiber Term at Customer Premises DS1 Rate	363,189	506,572	629,237	876,058	1,290,658	1,325,187	1,710,437	1,839,676	1,960,213	2,375,890	2,384,068
Fiber Term at Customer Premises DS3 Rate & Higher	29,893	56,208	105,420	190,106	232,430	212,277	265,280	296,659	413,918	517,533	631,820
ISDN Capable Lines	NA	NA	NA	116,839,259	105,443,488	106,355,653	96,011,618	86,199,947	82,043,344	76,775,728	71,754,688

NA: Not available

Source: ARMIS Report 43-07.

Table 10.2
Transmission System Data
AT&T Ameritech Companies

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Sheath Kilometers:											
Total Sheath Kilometers	586,712	598,858	601,779	612,988	629,321	636,725	642,674	652,181	657,922	665,745	676,616
Copper	533,491	541,197	540,170	546,336	555,024	558,670	562,163	570,185	573,316	575,852	578,733
Fiber	52,450	56,687	60,637	65,632	73,334	77,084	79,541	81,711	84,319	89,607	97,598
Other	771	974	972	1,020	964	971	970	286	286	286	285
Interoffice Working Facilities:											
Total Circuit Links	4,118,183	4,912,927	5,990,907	6,753,643	7,625,684	8,084,023	7,633,513	7,372,538	7,241,746	7,129,563	6,609,155
Loop Plant -- Central Office Terminations:											
Total Equipped Channels	34,740,814	36,301,862	37,842,246	39,092,223	40,436,388	42,145,712	38,326,987	38,922,520	39,012,822	39,331,278	39,601,598
Copper	29,797,059	30,063,619	30,255,769	30,775,153	30,444,126	30,690,174	34,469,562	34,918,499	33,028,372	33,035,248	33,125,113
Fiber Digital Carrier	4,943,755	6,238,243	7,586,477	8,317,070	9,992,262	11,455,538	3,857,425	4,004,021	5,984,450	6,296,030	6,476,485
Other	0	0	0	0	0	0	0	0	0	0	0
Total Working Channels	21,152,075	21,782,557	22,227,572	22,495,633	21,786,411	20,997,868	20,239,795	19,291,809	18,052,604	16,644,117	15,229,343
Copper	19,082,995	19,216,231	19,135,507	18,993,978	18,124,703	17,272,552	18,147,879	17,221,055	15,038,891	13,668,393	12,359,444
Fiber Digital Carrier	2,069,080	2,566,326	3,092,065	3,501,655	3,661,708	3,725,316	2,091,916	2,070,754	3,013,713	2,975,724	2,869,899
Other	0	0	0	0	0	0	0	0	0	0	0
Other Transmission Facility Data:											
Copper Pairs Term Main Frame (Loop Plant Only)	28,970,660	29,303,138	29,605,539	30,212,004	29,938,625	30,208,945	30,632,552	30,761,065	30,795,573	30,872,199	30,938,676
Fiber Strands Term in the CO (Loop Plant Only)	123,302	141,621	165,171	205,342	275,069	300,927	248,340	265,087	283,612	311,376	344,339
Fiber Term at Customer Premises DS1 Rate	46,366	53,506	62,090	78,822	106,984	118,927	318,417	345,032	384,053	414,963	440,658
Fiber Term at Customer Premises DS3 Rate & Higher	4,453	5,145	5,788	7,188	9,583	10,810	26,849	35,916	41,763	52,558	73,292
ISDN Capable Lines	NA	NA	NA	9,469,137	9,054,353	8,618,397	8,050,722	7,567,384	6,926,378	6,615,363	5,869,237

NA: Not available

Source: ARMIS Report 43-07.

Table 10.2
Transmission System Data
AT&T BellSouth Companies

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Sheath Kilometers:											
Total Sheath Kilometers	1,050,186	1,074,896	1,094,569	1,115,897	1,134,363	1,145,506	1,155,144	1,170,351	1,187,686	1,206,054	1,227,344
Copper	951,758	965,108	973,995	983,221	989,541	992,446	994,980	1,000,413	1,003,470	1,005,800	1,010,354
Fiber	96,852	105,335	116,507	129,209	141,356	149,609	156,707	166,476	180,754	196,813	213,561
Other	1,576	4,453	4,067	3,466	3,466	3,452	3,457	3,462	3,462	3,441	3,429
Interoffice Working Facilities:											
Total Circuit Links	6,107,816	6,134,728	8,564,658	9,828,726	10,690,256	10,835,682	10,539,995	10,306,408	10,211,775	10,211,260	9,634,752
Loop Plant -- Central Office Terminations:											
Total Equipped Channels	39,550,588	40,957,871	42,025,575	38,493,186	39,191,848	39,822,163	39,957,594	40,455,852	40,680,315	40,696,573	41,601,595
Copper	31,270,774	31,917,878	31,849,537	31,600,665	31,708,156	30,263,142	30,684,759	29,089,610	28,874,470	29,026,401	30,094,308
Fiber Digital Carrier	8,278,972	9,039,151	10,175,104	6,891,115	7,481,596	9,557,876	9,272,835	11,366,242	11,805,845	11,670,172	11,507,287
Other	842	842	934	1,406	2,096	1,145	0	0	0	0	0
Total Working Channels	27,921,162	29,836,968	30,422,706	26,262,694	25,989,359	25,039,974	24,334,185	23,426,354	22,237,045	20,660,819	19,532,735
Copper	20,708,890	21,233,672	21,237,643	20,311,329	19,664,164	17,250,216	16,854,022	14,456,834	13,286,993	12,258,177	11,652,888
Fiber Digital Carrier	7,212,190	8,603,214	9,184,935	5,950,949	6,324,563	7,789,007	7,480,163	8,969,520	8,950,052	8,402,642	7,879,847
Other	82	82	128	416	632	751	0	0	0	0	0
Other Transmission Facility Data:											
Copper Pairs Term Main Frame (Loop Plant Only)	26,703,438	27,082,625	26,602,864	31,771,617	48,789,643	49,853,210	51,027,738	52,265,386	53,401,516	54,143,046	55,838,372
Fiber Strands Term in the CO (Loop Plant Only)	157,957	185,416	205,840	226,360	248,433	310,092	322,590	351,606	391,378	417,140	430,450
Fiber Term at Customer Premises DS1 Rate	36,911	50,431	67,886	85,205	93,687	593,755	448,233	474,787	514,177	705,099	587,970
Fiber Term at Customer Premises DS3 Rate & Higher	6,847	8,974	35,492	94,022	107,998	112,931	121,680	129,894	140,319	144,903	150,697
ISDN Capable Lines	NA	NA	NA	13,111,821	12,636,844	16,230,309	16,065,806	15,764,831	15,739,843	15,543,607	15,381,048

NA: Not available

Source: ARMIS Report 43-07.

Table 10.2
Transmission System Data
AT&T Pacific Telesis Companies

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Sheath Kilometers:											
Total Sheath Kilometers	363,726	368,122	363,304	386,093	394,058	382,326	394,103	409,245	414,009	420,469	427,498
Copper	339,207	341,563	334,493	355,133	359,288	343,317	352,331	365,700	367,675	370,524	372,936
Fiber	23,375	25,416	27,648	29,797	33,227	37,466	40,279	43,342	46,131	49,742	54,359
Other	1,144	1,144	1,163	1,163	1,543	1,543	1,493	203	203	203	203
Interoffice Working Facilities:											
Total Circuit Links	3,369,967	3,760,855	4,352,282	5,032,433	5,141,975	4,792,666	4,649,070	4,410,421	4,297,813	4,030,874	3,646,767
Loop Plant -- Central Office Terminations:											
Total Equipped Channels	28,635,080	29,739,661	30,729,411	33,317,471	34,687,259	34,988,223	31,628,755	32,005,987	32,281,694	32,987,431	33,152,037
Copper	27,548,645	28,348,883	29,062,676	31,479,491	32,170,875	32,337,338	30,161,010	30,398,583	30,545,581	31,179,398	31,319,173
Fiber Digital Carrier	1,086,411	1,390,754	1,666,523	1,837,699	2,516,055	2,650,609	1,467,745	1,607,404	1,736,113	1,808,033	1,832,864
Other	24	24	212	281	329	276	0	0	0	0	0
Total Working Channels	18,254,128	20,103,518	20,963,786	23,081,376	22,773,561	22,080,915	17,868,331	17,311,070	16,684,641	16,235,342	15,503,872
Copper	17,569,012	19,235,044	19,936,233	21,930,468	21,380,638	20,803,417	17,070,393	16,430,928	15,733,399	15,256,737	14,538,480
Fiber Digital Carrier	685,092	868,450	1,027,425	1,150,752	1,392,728	1,277,338	797,938	880,142	951,242	978,605	965,392
Other	24	24	128	156	195	160	0	0	0	0	0
Other Transmission Facility Data:											
Copper Pairs Term Main Frame (Loop Plant Only)	25,412,880	25,953,289	26,639,408	27,102,231	27,403,873	27,620,878	27,668,068	27,754,848	27,851,112	27,904,707	27,917,036
Fiber Strands Term in the CO (Loop Plant Only)	88,192	97,385	101,516	115,670	139,598	182,250	49,626	51,419	53,554	71,404	77,774
Fiber Term at Customer Premises DS1 Rate	762	854	894	0	0	0	244,193	265,797	293,775	320,502	344,366
Fiber Term at Customer Premises DS3 Rate & Higher	6,145	7,432	9,456	13,132	16,805	19,925	23,252	29,988	40,059	57,074	86,600
ISDN Capable Lines	NA	NA	NA	15,930,217	14,563,646	15,240,270	8,870,683	8,272,400	8,000,416	7,702,746	7,399,776

NA: Not available

Source: ARMIS Report 43-07.

Table 10.2
Transmission System Data
AT&T Southern New England Tel.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Sheath Kilometers:											
Total Sheath Kilometers					78,634	79,230	77,061	77,879	78,720	79,373	81,872
Copper					68,582	68,786	66,119	66,717	67,166	67,320	68,514
Fiber					10,052	10,444	10,810	11,076	11,468	11,967	13,272
Other					0	0	132	86	86	86	86
Interoffice Working Facilities:											
Total Circuit Links					701,243	720,401	843,381	781,235	788,726	716,423	642,649
Loop Plant -- Central Office Terminations:											
Total Equipped Channels					4,719,268	4,627,977	4,747,002	4,841,846	4,879,686	4,906,370	4,991,007
Copper					3,991,935	4,018,081	4,009,459	4,042,100	4,059,897	4,079,481	4,151,464
Fiber Digital Carrier					727,333	609,896	737,543	799,746	819,789	826,889	839,543
Other					0	0	0	0	0	0	0
Total Working Channels					2,551,112	2,540,750	2,296,050	2,193,809	2,065,238	1,916,094	1,792,444
Copper					2,064,154	2,140,299	1,876,364	1,768,509	1,633,650	1,494,059	1,384,647
Fiber Digital Carrier					486,958	400,451	419,686	425,300	431,588	422,035	407,797
Other					0	0	0	0	0	0	0
Other Transmission Facility Data:											
Copper Pairs Term Main Frame (Loop Plant Only)					4,108,736	3,892,983	3,860,982	3,869,497	3,882,583	3,886,453	3,949,600
Fiber Strands Term in the CO (Loop Plant Only)					60,062	89,466	24,006	26,986	28,476	31,948	33,585
Fiber Term at Customer Premises DS1 Rate					0	67,790	33,818	31,586	34,120	36,397	37,360
Fiber Term at Customer Premises DS3 Rate & Higher					0	0	6,182	4,092	4,676	5,855	6,750
ISDN Capable Lines					384,431	398,824	1,049,395	990,236	915,442	834,992	781,888

NA: Not available

Source: ARMIS Report 43-07.

Table 10.2
Transmission System Data
AT&T Southwestern Bell Companies

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Sheath Kilometers:											
Total Sheath Kilometers	685,526	700,914	715,915	734,982	749,279	758,096	768,714	777,213	789,941	805,582	820,126
Copper	622,960	634,236	645,280	657,915	665,754	671,033	678,357	684,030	691,016	697,110	701,560
Fiber	60,561	66,074	70,023	76,442	82,893	86,431	89,725	92,549	98,293	107,840	117,936
Other	2,005	604	612	625	632	632	632	634	632	632	630
Interoffice Working Facilities:											
Total Circuit Links	3,374,225	4,013,947	5,040,973	5,747,378	6,133,750	6,011,924	6,248,497	6,238,881	6,079,908	6,082,489	5,705,015
Loop Plant -- Central Office Terminations:											
Total Equipped Channels	26,003,155	26,573,984	27,781,986	28,466,090	33,579,340	35,090,790	30,806,704	31,676,407	32,267,999	33,003,479	33,424,292
Copper	24,957,200	25,399,685	26,437,109	27,047,348	30,533,897	31,634,863	26,115,730	26,629,079	27,047,559	27,460,575	27,772,659
Fiber Digital Carrier	1,045,955	1,174,299	1,344,877	1,418,742	3,045,443	3,455,927	4,690,974	5,047,328	5,220,440	5,542,904	5,651,633
Other	0	0	0	0	0	0	0	0	0	0	0
Total Working Channels	16,305,661	17,626,797	17,857,937	18,053,445	16,482,996	15,888,373	15,236,915	14,528,841	13,592,535	12,784,143	12,000,269
Copper	15,532,286	16,738,819	16,854,720	16,970,439	15,386,074	14,767,650	12,653,096	11,827,658	10,930,772	10,103,935	9,368,928
Fiber Digital Carrier	773,375	887,978	1,003,217	1,083,006	1,096,922	1,120,723	2,583,819	2,701,183	2,661,763	2,680,208	2,631,341
Other	0	0	0	0	0	0	0	0	0	0	0
Other Transmission Facility Data:											
Copper Pairs Term Main Frame (Loop Plant Only)	22,926,817	22,904,300	23,579,244	24,032,521	24,062,333	24,290,865	24,407,172	24,749,958	24,958,917	25,087,864	25,196,529
Fiber Strands Term in the CO (Loop Plant Only)	193,409	206,178	158,881	256,736	329,584	388,011	161,950	172,172	183,440	214,567	233,962
Fiber Term at Customer Premises DS1 Rate	77,545	113,701	103,739	130,287	160,740	172,872	273,498	307,114	339,744	372,277	398,300
Fiber Term at Customer Premises DS3 Rate & Higher	5,039	5,615	1,995	3,668	4,523	4,828	20,354	26,529	33,048	43,517	64,951
ISDN Capable Lines	NA	NA	NA	12,168,819	12,055,812	11,177,094	4,981,445	4,680,190	4,351,990	4,022,549	3,797,474

NA: Not available

Source: ARMIS Report 43-07.

Table 10.2
Transmission System Data
Qwest Companies

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Sheath Kilometers:											
Total Sheath Kilometers	717,084	722,157	735,920	754,162	762,412	770,660	779,623	789,965	798,298	805,576	812,728
Copper	653,205	650,929	662,816	675,009	676,615	684,193	690,414	698,213	704,670	709,450	713,398
Fiber	63,880	65,171	66,986	69,906	76,585	80,891	83,638	86,182	88,058	90,582	93,844
Other	0	6,057	6,119	9,247	9,212	5,576	5,570	5,570	5,570	5,544	5,486
Interoffice Working Facilities:											
Total Circuit Links	3,561,748	4,129,315	5,232,282	6,152,970	6,926,823	7,018,987	6,746,390	6,521,359	6,262,916	6,178,945	6,027,173
Loop Plant -- Central Office Terminations:											
Total Equipped Channels	24,893,900	27,316,968	28,023,288	28,733,473	29,643,140	30,106,628	30,149,357	30,254,149	30,524,455	30,600,052	30,623,869
Copper	23,193,518	25,517,759	25,361,821	25,581,184	25,939,651	26,077,832	25,727,523	25,545,943	25,653,793	25,462,364	25,313,865
Fiber Digital Carrier	1,699,888	1,799,003	2,661,211	3,152,009	3,703,244	4,028,568	4,421,607	4,707,979	4,870,434	5,137,445	5,309,762
Other	494	206	256	280	245	228	227	227	228	243	242
Total Working Channels	17,195,446	17,455,809	18,011,061	18,009,155	17,058,921	16,260,389	15,607,156	15,038,312	14,301,144	13,388,731	12,260,905
Copper	16,113,600	16,222,185	16,270,241	15,887,131	14,607,962	14,400,788	13,625,667	12,996,038	12,286,229	11,417,937	10,376,620
Fiber Digital Carrier	1,081,695	1,233,523	1,740,715	2,121,920	2,450,864	1,859,511	1,981,407	2,042,191	2,014,829	1,970,718	1,884,211
Other	151	101	105	104	95	90	82	83	86	76	74
Other Transmission Facility Data:											
Copper Pairs Term Main Frame (Loop Plant Only)	20,463,591	21,558,602	21,606,866	21,572,942	21,653,395	21,724,140	22,858,456	22,907,836	23,069,191	23,111,778	23,160,917
Fiber Strands Term in the CO (Loop Plant Only)	123,691	174,430	202,329	238,802	299,315	309,154	316,793	322,781	436,786	449,883	477,094
Fiber Term at Customer Premises DS1 Rate	46,296	91,105	136,878	267,251	316,665	349,948	370,416	390,835	156,616	262,659	280,150
Fiber Term at Customer Premises DS3 Rate & Higher	1,142	6,085	28,354	38,224	51,546	60,366	63,678	66,830	103,926	155,706	180,303
ISDN Capable Lines	NA	NA	NA	9,922,088	9,012,052	8,426,381	7,591,314	7,191,782	7,047,818	6,569,964	5,976,121

NA: Not available

Source: ARMIS Report 43-07.

Table 10.2
Transmission System Data
Verizon - Bell Atlantic Companies

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Sheath Kilometers:											
Total Sheath Kilometers	992,970	1,008,405	1,022,395	1,038,094	1,046,999	1,080,551	1,088,452	1,095,801	1,119,400	1,146,396	1,176,244
Copper	873,583	876,739	879,768	886,323	886,147	912,134	914,932	917,525	918,542	921,753	923,263
Fiber	118,987	130,872	141,888	151,432	160,494	168,185	173,174	177,930	200,512	224,324	252,678
Other	401	794	739	339	357	232	346	346	346	319	303
Interoffice Working Facilities:											
Total Circuit Links	5,853,744	6,834,238	8,693,801	10,262,940	11,001,835	11,120,804	11,201,109	11,045,592	10,245,898	9,334,622	9,083,841
Loop Plant -- Central Office Terminations:											
Total Equipped Channels	80,327,245	99,291,295	107,609,086	118,262,278	132,282,141	83,370,102	81,140,923	83,703,872	74,494,204	74,651,191	74,710,204
Copper	66,426,101	69,763,421	69,783,996	70,380,468	71,028,549	65,274,338	64,992,904	65,921,886	63,212,555	63,265,368	63,241,418
Fiber Digital Carrier	13,901,144	29,527,874	37,825,090	47,881,810	61,253,592	18,095,764	16,148,019	17,781,986	11,281,649	11,385,823	11,468,786
Other	0	0	0	0	0	0	0	0	0	0	0
Total Working Channels	48,600,177	66,109,986	74,269,449	84,300,998	97,520,356	44,619,456	40,052,063	38,588,203	34,792,533	31,773,083	28,651,242
Copper	39,429,529	41,983,369	43,003,921	43,790,217	43,770,856	34,803,810	32,820,501	31,437,854	28,203,411	25,736,621	23,208,189
Fiber Digital Carrier	9,170,648	24,126,617	31,265,528	40,510,781	53,749,500	9,815,646	7,231,562	7,150,349	6,589,122	6,036,462	5,443,053
Other	0	0	0	0	0	0	0	0	0	0	0
Other Transmission Facility Data:											
Copper Pairs Term Main Frame (Loop Plant Only)	61,342,895	61,875,146	61,342,016	60,962,933	60,979,463	62,622,453	62,718,766	63,581,514	61,299,439	61,353,678	61,354,275
Fiber Strands Term in the CO (Loop Plant Only)	872,210	1,014,974	1,127,598	1,227,204	1,359,225	1,487,203	1,552,120	1,601,097	1,787,476	1,959,428	2,241,896
Fiber Term at Customer Premises DS1 Rate	131,829	192,129	246,434	314,204	612,368	21,723	21,693	22,149	231,749	257,588	288,623
Fiber Term at Customer Premises DS3 Rate & Higher	4,094	18,518	24,111	32,912	40,995	2,778	2,715	2,639	33,768	41,731	52,530
ISDN Capable Lines	NA	NA	NA	38,205,741	35,587,450	34,658,178	33,659,351	31,478,816	27,823,308	25,493,902	22,994,661

NA: Not available

Source: ARMIS Report 43-07.

Table 10.2
Transmission System Data
Verizon - GTE Companies

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Sheath Kilometers:											
Total Sheath Kilometers	1,268,110	1,290,068	1,312,437	1,041,353	1,053,450	938,012	946,019	967,564	941,548	950,615	979,137
Copper	1,188,835	1,203,101	1,219,257	959,596	965,586	856,090	859,017	863,698	840,527	837,171	849,672
Fiber	79,275	86,966	93,180	81,757	87,864	81,922	87,002	103,866	101,021	113,444	129,465
Other	0	0	0	0	0	0	0	0	0	0	0
Interoffice Working Facilities:											
Total Circuit Links	2,461,398	2,445,471	4,004,974	4,182,896	4,701,614	4,365,148	4,250,911	4,274,046	3,929,101	3,814,776	3,692,150
Loop Plant -- Central Office Terminations:											
Total Equipped Channels	30,278,580	31,455,009	42,599,694	44,228,437	44,158,765	42,082,287	40,826,357	38,862,163	25,548,396	25,060,677	25,443,790
Copper	27,709,878	28,240,814	29,880,881	28,232,406	26,443,750	24,631,902	22,051,252	19,078,227	21,610,762	21,357,894	21,694,665
Fiber Digital Carrier	2,559,245	3,209,964	12,715,677	15,994,041	17,713,874	17,449,464	18,774,264	19,783,936	3,937,634	3,702,783	3,749,125
Other	9,457	4,231	3,136	1,990	1,141	921	841	0	0	0	0
Total Working Channels	20,654,471	21,925,330	23,991,380	24,233,066	23,715,390	21,729,366	20,343,905	17,899,897	15,528,246	12,364,940	11,362,475
Copper	18,850,077	19,726,313	18,207,964	17,826,786	17,365,904	15,789,637	14,213,787	11,534,041	12,903,376	10,318,592	9,542,439
Fiber Digital Carrier	1,801,556	2,196,916	5,536,831	6,405,057	6,348,889	5,939,291	6,129,678	6,365,856	2,624,870	2,046,348	1,820,036
Other	2,838	2,101	246,585	1,223	597	438	440	0	0	0	0
Other Transmission Facility Data:											
Copper Pairs Term Main Frame (Loop Plant Only)	29,713,980	30,313,513	29,094,240	21,787,495	21,925,961	22,039,455	19,347,181	16,664,627	18,958,421	19,011,919	19,306,804
Fiber Strands Term in the CO (Loop Plant Only)	93,238	126,604	43,739	39,394	33,298	31,706	30,496	40,551	42,307	44,415	46,238
Fiber Term at Customer Premises DS1 Rate	23,480	4,846	11,316	289	214	172	169	2,376	5,979	6,405	6,641
Fiber Term at Customer Premises DS3 Rate & Higher	2,173	4,439	224	960	980	639	570	771	16,359	16,189	16,697
ISDN Capable Lines	NA	NA	NA	18,031,436	12,148,900	11,606,200	15,742,902	10,254,308	11,238,149	9,992,605	9,554,483

NA: Not available

Source: ARMIS Report 43-07.